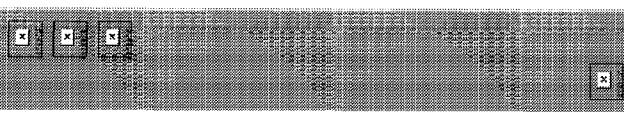


**From:** Separation Science e-Learning <noreply@sepscience.com>  
**Sent:** Friday, February 01, 2013 1:08 PM  
**To:** Hanchett, James (DPH)  
**Subject:** Mass Spectrometry Workshops and Online Learning Sessions - 2013 Schedule



## Mass Spectrometry Workshops and Online Learning Sessions

Throughout 2013, Separation Science is running a series of classroom workshops, live on the web training sessions and self-paced courses on mass spectrometry. Run in conjunction with world-renowned MS training experts Frederick Klink and David Sparkman, these learning platforms offer analytical scientists a unique educational opportunity to improve knowledge and skills in MS practice and application. Places are limited on all courses so don't miss out - register today. Courses available include:

### Mass Spectrometry Principles & Practice

This intensive, five-day lecture/lab course on mass spectrometry is co-sponsored by and presented at the University of the Pacific in Stockton, California, USA. The lecture portion covers the basics of both LC/MS and GC/MS, including interpretation of mass spectra and practical advice on operation and maintenance of mass spectrometers. The laboratory is supported by the leading Mass Spec vendors affording each student the opportunity to have hands-on experience with state-of-the-art instrumentation. The experiments, however, are not "canned" demonstrations, but are real-life, practical exercises that reinforce the fundamental concepts presented in lecture. Click the link below for more information:

**CLASSROOM: 5-9 August, 2013 (5 days) - California, USA**

### LC/MS Fundamentals & Applications

This is a comprehensive overview course that provides attendees with relevant, practical approaches that can be immediately applied in the lab. The theory of LC/MS interfaces (electrospray, atmospheric pressure chemical ionization, and atmospheric pressure photoionization), is presented to the extent necessary to understand operation of these instruments but the real focus of this class is improving your ability to use LC/MS on a daily basis. Click on the links below for more information on each course:

**CLASSROOM: 4-5 March, 2013 (2 days) - Singapore**  
**LIVE ON THE WEB: 21 May-27 June**  
**LIVE ON THE WEB: 8 Oct-14 Nov**  
**SELF-PACED COURSE: Immediate Access**

### Mass Spectral Interpretation

The training course on interpretation of mass spectra is designed to develop the fundamental skills necessary to understand fragmentation of ions formed by electron ionization (EI) in GC/MS or by one of the soft ionization techniques employed in LC/MS. Many of the examples are taken from EI mass spectrometry; however, the principles that are learned are applicable to any ionization technique. Click on the links below for more information on each course:

**CLASSROOM: 4-5 March, 2013 (2 days) - Singapore**  
**LIVE ON THE WEB: 2 Apr-9 May**  
**LIVE ON THE WEB: 3 Sept-10 Oct**  
**SELF-PACED COURSE: Immediate Access**

### Peptide & Protein Characterization


This course provides an overview of mass spectrometry fundamentals plus the operational specifics of mass analyzers and LC/MS and MALDI sample introduction systems employed for protein analysis. Discussions and examples also include the latest micro and nano-scale systems. Practical advice on development of HPLC methods compatible with LC/MS—sample preparation, solvent systems, columns and sample considerations which minimize ion suppression effects and interferences in the mass spectrum and the effects of different sample matrices in MALDI will also be discussed. Click on the links below for more information on each course:

**LIVE ON THE WEB: 19 March-11 April**  
**LIVE ON THE WEB: 9 July-1 Aug**  
**LIVE ON THE WEB: 19 Nov-17 Dec**  
**SELF-PACED COURSE: Immediate Access**

### About the Instructors

**Fred Klink** is a trainer and consultant to the pharmaceutical, biotech, and chemical industries as well as law enforcement and other government laboratories. Fred's speciality is HPLC, LC/MS, and solid-phase extraction technologies. Fred received a degree in biochemistry from North western University and completed graduate studies and an internship in forensic chemistry at the University of Illinois. Fred is the author of several journal articles and book chapters including the LC/MS entry in the Wiley Encyclopedia of Analytical Chemistry. He is a member of the American Chemical Society and American Society for Mass Spectrometry.

**O. David Sparkman** is currently an Adjunct Professor of Chemistry at the University of the Pacific in Stockton, California; Consultant to the National Institute of Standards and Technology Mass Spectrometry Data Center; President of ChemUserWorld.com; and a former American Chemical Society Instructor and American Society for Mass Spectrometry Member-at-large for Education. At the University of the Pacific he teaches courses in mass spectrometry and analytical chemistry and manages the mass spectrometry facility. Over the past 28 years, he has developed and taught five different ACS courses in mass spectrometry. He is the author of *Mass Spectrometry Desk Reference*, 1st and 2nd editions; *Introduction to Mass Spectrometry*, 4th ed. with J. Throck Watson and *Gas Chromatography Mass Spectrometry: A Practical Guide*, 2nd ed. with Zelda Penton. He also provides general consulting services in mass spectrometry for a number of instrument manufacturers, manufacturing companies, and government agencies.



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